

A CASE STUDY OF SMALL-SCALE FARMER'S PARTICIPATION IN NIGERIA AGRICULTURAL DEVELOPMENT PROGRAMMES: OYO AND OSUN STATE AGRICULTURAL DEVELOPMENT PROGRAMMES

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Key words: Farmers, Participation, Extension activities, Agricultural Development Programme.

ABSTRACT

The study examined the socio-economic characteristics of small-scale farmers that were participating in Oyo and Osun States' Agricultural Development programmes. Reasons for participation and activities in which they had participated were investigated. Data were collected from 120 randomly selected registered farmers in the two programmes. Frequency counts, percentages and chi-square analysis were used in data analysis. Majority of the sampled farmers were illiterates, but had many years of farming experience. Procurement of fertilizers at cheaper rate, easy accessibility to farm information, new crop varieties, new methods of farming, tractors and implements hiring were some of the reasons for participation. Farmers participated in the following programme activities, agricultural meetings, demonstrations, fortnightly training meetings, purchasing farm inputs and listening to radio agricultural programmes. Age of farmers had a positive and significant relationship with total number of activities in which farmers had participated.

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I . Introduction

Agriculture is the engine of growth for poor countries and poor people, and agricultural development is one of the most effective ways to alleviate hunger and poverty. Slow growth in agriculture production has been a serious problem in Sub-Sahara Africa, challenging domestic and international policymakers.

Accelerating that growth will require important contributions from agricultural extension and research, and their respective roles depend on the general level of agricultural development (Bindlish and Evenson 1997). The Agricultural Development Programmes (ADPs) were identified and launched against the background of a Nigerian Agriculture, which in the 1950s and 1960s had attained pre-eminent export status through complete reliance on the small-scale farmers. Therefore, the main feature of the Agricultural development programmes is on the small-scale farmers as the centerpiece of increased food production in Nigeria.

The Agricultural Development Programme system is based on the premise that a combination of factors comprising the right technology, effective extension service, access to physical inputs, adequate market and other infrastructural facilities are essential to get agriculture moving and to improve productivity in order to raise the standard of living of rural dwellers. Idachaba et al. (1980) confirmed the dominant position of small-scale farmers in Nigeria's agricultural production. However, peasant agriculture in the country has developed little over the years, and it is presently incapable of solving the nation's food problems.

Extension is a high priority in the World Bank's strategy for accelerating agricultural growth in Sub-Saharan Africa (Cleaver 1993). This strategy is attained not only at propagating improved practices, but also at helping farmers to become better managers and more adept at organizing their operations and conserving natural resources. As farmer's skills improve and demand for yield increasing research and other services rise, extension services provide the blend of basic science and

practical experience essential to stimulate agricultural growth (Feder et al. 1986). Through the Training and Visit (T & V) system of extension, better production methods and new technologies are being introduced to farmers at the field level (Benor, Harrison and Baxter 1984).

Training and visit system of extension aims at closing the gap between the yields attainable using best-practice technologies and the yields farmers actually achieve. The T and V system provides comprehensive agricultural extension services (for crops, livestock, and so on) within a single line of command. The strategy that has been developed has four key elements; regular visits by extension workers to designated Contact Farmers and contact groups, carefully selected to achieve a “spread effect” to farmers who are not in direct contact with extension; a cadre of subject matter specialists, who are trained by research scientist and who in turn train field-level extension workers; the regular supervision of extension staff at all levels; and fixed work programmes and specific responsibilities. Extension workers gradually disseminate technological packages to farmers, focusing on a few simple messages on each visit.

The strategic role assigned to extension in Agricultural Development programmes and the resources being invested in it makes it imperative to study the participation of small farmers in Agricultural Development programmes. A recent review of the literature on the economic impact of extension concludes that extension services do increase agricultural production (Birkhausaer, Evenson, and Feder 1991). The specific objectives of this study were to identify:

- (i) the socio-economic characteristics of farmers participating in the agricultural development programmes.
- (ii) the reasons for participation in programmes activities and
- (iii) the activities in which the small-farmers had participated in the two programmes. It was hypothesized that there was no significant relationship between farmer's participation in the programme activities and their levels of education on one hand, and age of farmer on the other.

II. Methodology

The study was conducted in Oyo and Osun States' Agricultural Development Programmes with Headquarters in Shaki and Iwo respectively. Each programmes was divided into zones. A zone was further divided into areas, while area was sub-divided into blocks. Each block was divided into cells in line with T & V system of extension. The two programmes used the T & V system of extension for making contacts with small-farmers in the states. It was not the intention of this study to make comparative analysis of farmers' participation in the two programmes under study.

Data for the study were collected from registered farmers in the two programmes. Personal interview method with structured schedule was employed to collect the relevant information. Multi-stage random sampling technique was used for selecting farmers for interview. At first stage, two areas were selected from each of the two programmes. Hence, four areas were first selected. Then two blocks were randomly selected from each of the selected areas. Thus, a total of eight blocks were earmarked. Thereafter, four cells were selected at random from each of the block, giving a total of 32 cells for sampling farmers for data collection.

Systematic random sampling technique was used to select farmers from the farmers' lists secured from village extension agents in each of the chosen cells. A total of 155 farmers were earmarked for sampling. However, only 120 registered farmers were available for interview in the two programmes at the time of data collection process. Frequency counts; percentages and tables were used in data analysis while chi-square analysis carried out for testing the null hypotheses.

The chi-square formulae was as follows
$$X^2 = \sum \frac{((O-E)^2)}{E}$$
 where

O = Observed frequency

E = Expected frequency

Σ = Summation sign

III. Results and Discussions

1. Socio-economic Characteristics of Participating Farmers

The analysis of the data reveals that above 84.17% of farmers interviewed were above 35 years of age, while the remaining 15.83% fell within the age group of 25 and 35 years. This age distribution shows that young and able-bodied men are going out of farming. Thus, the aged farmers may require assistance to increase their productivity. Also, the youths in the programmes need to be encouraged to take interest in farming.

The study also revealed that 57.17% of the farmers never attended any school. The study shows that 24.17% attended primary school but did not complete it, while 11.67% completed their primary education. Only 5.00% of the farmers attended secondary modern school, another 1.67% farmers attended teacher's Grade II College. It was shown that a large proportion of the farmers were illiterates. There may be a need for non-formal education programme such as adult education classes and literacy campaigns to facilitate extension activities in the two programmes.

The analysis further revealed that a large proportion of the participating farmers had long been involved in farming. 88.43% of farmers had more than six years of farming experiences, while out of the remaining, 10.00% farmers had between four and six years of farming experiences. The wealth of farming experiences of the majority of the participating farmers may facilitate the on-farm adaptive research in the programme areas. Experience in farming has a lot to do with successful adoption of farm innovation. Ogunwale (2003) found positive correlations between adoption of farm innovations and age, number of children, level of education, primary occupation, level of annual income, size of farm, contact with extension agents and years of farming experience among rural women.

The findings further showed that 48.33% farmers were

cultivating between 1.5 and 2.5 hectares, 26.66% farmers were cultivating between 2.6 and 3.5 hectares of land, while 25.00% were cultivating above 3.5 hectares of land. The age of farmers might be responsible for low hectarage of farmlands being cultivated by the majority of sampled farmers. The high cost of hiring tractor and external labour might have prevented the farmers from extending their farm hectarage at old age. It was further revealed that the lands used for cultivation in the two programmes were put under either permanent or arable crops or both. A large proportion of the sample farmers (94.17%) were cultivating maize and cassava. The findings also showed that about 65.00% farmers had been participating in the programmes for more than two years, while 20.83% of the farmers claimed that they had spent more than one year with the programmes studied. The programmes therefore, need to ensure continuous services to the farmers so as to increase their production of both permanent and arable crops in order to increase their incomes and improve their standard of living.

2. Reasons for participating in the Programmes

Table 1 shows that above 50% of the programme registered farmers included in the study mentioned the following: (i) to get fertilizers at cheaper price (89.17%); (ii) to get farm inputs readily (69.17%); (iii) to receive for nightly training (62.50%); (iv) to have access to farm machineries, tractors and implements (55.83%); and (v) to acquire new crop varieties (52.55%), as reasons for their participating in the two programmes. These reasons would enable farmers to increase their farm production, farm income and, hence improve their standard of living. Thus, the farmers need to be encouraged to sustain their participation in the agricultural development programmes in the two states.

Other reasons mentioned by sampled farmers were (i) to get farm information (49.17%); (ii) to acquire knowledge of new methods of farming (40.00%); (iii) to receive advice on farming practices (34.17%); and (iv) to get solutions to farm problems (26.7%) in decreasing order of importance. These reasons showed

TABLE 1. Frequency and Percentage Distribution of Reasons Mentioned for Participation in the Programmes by Registered Farmers. N=120

	Reasons for participation	Frequency	Percentage
I	To get fertilizers at cheaper price	107	89.17
ii	To get farm input readily	83	60.17
iii	To receive fortnight training	75	62.50
iv	To have access to farm machineries, tractors and implements	67	55.83
v	To acquire new crop varieties	63	52.50
vi	To get farm information and improved technologies	59	49.17
vii	To acquire knowledge of new methods farming	48	40.00
viii	To receive advice on farming practices	41	34.17
ix	To get solutions to farm problems	32	26.67

Source: Field Survey, 2004

that the farmers were quite aware of the extension services of the programmes, and hope to receive assistance from the extension workers in order to solve their farm problems.

3. Farmers Participation in Programme Activities

Table 2 reveals that the sample farmers had participated in activities, which facilitated face-face personal contact with field-level extension workers in the two programmes. Farmers participated in the following activities (i) attending agricultural meetings (87.50%); (ii) purchasing farm inputs from farm service centers (81.67%); (iii) seeking advice in the programmes (60.83%); and (iv) participating in demonstration programmes (57.50%). It was further revealed that 80.83% farmers attended meetings every fortnight while 75.83% farmers reported listening to radio agricultural programmes being sponsored by the two programmes. Also, 20.83% farmers had seen and/or read agricultural pamphlets, bulletins and posters produced by the programmes.

TABLE 2. Frequency and Percentage Distribution of Activities in which Farmers had Participated in the two Programmes. N=120

	Reasons for participation	Frequency	Percentage
i	Attending agricultural meetings	105	87.50
ii	Purchasing Agro-chemical and other farm inputs from farm service centres	98	81.67
iii	Going to meetings every fortnight	97	80.83
iv	Listening to radio agricultural programmes	91	75.83
v	Going to extension workers for advice	73	60.83
vi	Participating in agricultural demonstration programmes	69	57.50
vii	Going with extension workers to demonstration farms	57	47.50
viii	Seeing or reading agricultural pamphlets, bulletins and posters	25	20.83
ix	Watching drama presentation on farm practices	21	17.50

Source: Field Survey, 2004

The above findings showed that the two programmes used different channels to ensure farmers participation in the programmes activities. Patel (1997) reported interpersonal localite, interpersonal cosmopolite and mass media as channels of communication with farm populace. The extension agent has been reported as the most sought interpersonal cosmopolite source (Williams 1969), while radio was reported as the most sought mass mediated channel (Igodan and Adekoya 1987). Jibowo (1992) indicated that the use of contact farmers by extension agents is highly effective in extension programmes.

4. Testing of Hypotheses

The results of chi-square analysis on the relationship between the total number of programmes activities in which farmers had participated and level of education on one hand, and age on the other were tabulated on Tables 3 and 4 respectively. The result shows that there was no significant relationship between level of

education attained and participation in programmes activities. The X^2 calculated value=5.42 < X^2 tabulated value=11.34 at 0.01% level of significance. Hence, the null hypothesis was accepted.

TABLE 3. The Results of Chi-square Analysis of the Relationship Between Level of Education Attained and the Total Number of Programmes Activities in which Farmers Participated.

	Level of education	Numbers of farmers	Total number of activities in which farmers participated
i	Never attended school	69	345
ii	Primary uncompleted	29	182
iii	Primary completed	14	142
iv	Secondary Modern School	6	35
v	Teacher Grade II and above	2	17

(i) X^2 calculated value = 5.42

(ii) X^2 tabulated value = 11.34

(iii) Level of significance = 0.01%

(iv) Decision: H_0 accepted

Source: Field Survey, 2004

TABLE 4. The Results of Chi-square of the Relationship Between Age of Farmers and the Total Number of Programmes Activities in which Farmers Participated.

	Age Group	Actual number of farmers	Total number of activities in which farmers participated
i	25-29 years	7	61
ii	30-34 years	12	77
iii	35-39 years	17	95
iv	40 years and above	84	265

Source: Field Survey, 2004

Note: Farmers ages were approximated to the nearest whole number

(i) X^2 calculated value = 12.09

(ii) X^2 tabulated value = 11.32

(iii) Level of significance = 0.01%

(iv) Decision: H_0 rejected

However, Table 4 reveals that there was a positive and significant relationship between age of farmers and the total number of programme activities in which farmers had participated. The X^2 -calculated value=12.09 > X^2 -tabulated value=11.32 at 0.01% level of significance. Hence, the null hypothesis was rejected. Age becomes critical when agricultural development project is the task (Francis, 1974). This is because as the farmer advances in age there is likelihood of such a farmer to seek more assistance from village level extension worker who may encourage his or her participation in programme activities.

5. Implication of Findings for Agricultural and Rural Development Programmes

The study shows that farmers participated in many extension activities of the two programmes. Thus, the two programmes should provide farm input and services to encourage farmers' participation and active involvement in programme's activities. Also, the use of radio agricultural programmes and agricultural meetings at local levels should be maximally employed to maintain adequate contacts with farmers at grass-root levels. Adequate supplies of farm inputs, such as seeds, chemicals and fertilizers should be guaranteed as per when needed for planting operations. This will ensure farmers' patronage of the farm-input supply centers of the two programmes and invariably increase food production in the country.

IV. Conclusions

Clientele participation is a major pre-requisite to the success of any agricultural and rural development programmes. The findings reveal that majority of the participating farmers were illiterates, but had many years of farming experiences. Among the reasons mentioned for participation in the programmes were, procurement of fertilizers at cheaper rate, easy accessibility to farm information, new crop varieties, new methods of farming, hiring of tractors and implements. Farmers participated in the following programme

activities, agricultural meetings, demonstration, fortnightly training meeting, purchasing farm inputs such as seeds, chemical and fertilizers from the programmes and listening to radio agricultural programmes.

The study show that there was no significant relationship between the level of education attained by farmer and the total number of programme activities in which farmers participated. However, age of farmer had a positive and significant relationship with farmers' participation in the programme activities. The following conclusions were made on the basis of findings of the study;

- (i) Farmers were participating in the Agricultural Development Programmes in order to secure farm inputs and services required for increasing their farm productivity and income.
- (ii) Farmers participated in many programme extension activities so as to take maximum advantage of the benefits of the agricultural development programmes.
- (iii) The Extension Departments of the two programmes used many avenues to contact small-scale farmers so as to encourage their participation in programme activities.
- (iv) Age of the farmers actually influenced the level of participation of farmers in the programme activities while the level of education did not influence their participation in programme activities.
- (v) The majority of the sampled farmers were of age, illiterates, but had many years of experience, which could use for effective on-farm adaptive research in the programmes.

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